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NAS WHITING FIELD  
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FINAL RECORD OF DECISION FOR SITE 35 NAS WHITING FIELD FL  
9/22/2006  
TETRA TECH NUS

# **C**omprehensive **L**ong-term **E**nvironmental **A**ction **N**avy

CONTRACT NUMBER N62467-94-D-0888



Rev. 1  
09/22/06

## **Record of Decision for OU 22, Site 35, Building 1429, Public Works Maintenance Facility Surface and Subsurface Soil**

**Naval Air Station Whiting Field  
Milton, Florida  
USEPA ID No. FL2170023244**

**Contract Task Order 0079**

**September 2006**



**Southeast**

**2155 Eagle Drive**

**North Charleston, South Carolina 29406**

**RECORD OF DECISION  
FOR  
OPERABLE UNIT 22 - SITE 35  
BUILDING 1429, PUBLIC WORKS  
MAINTENANCE FACILITY  
SURFACE AND SUBSURFACE SOILS**

**NAVAL AIR STATION WHITING FIELD  
MILTON, FLORIDA  
USEPA ID No. FL2170023244**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

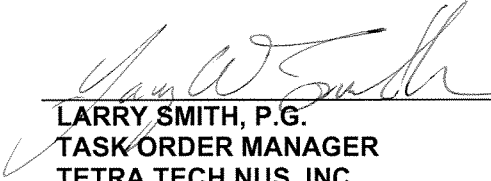
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**CONTRACT NO. N62467-94-D-0888  
CONTRACT TASK ORDER 0079**

**SEPTEMBER 2006**

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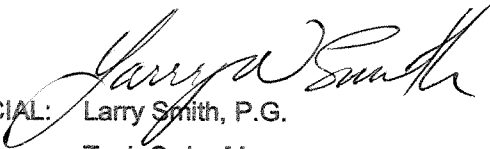
  
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### CERTIFICATION OF TECHNICAL DATA CONFORMITY

The Contractor, Tetra Tech NUS, Inc., hereby certifies, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-94-D-0888 are complete, accurate, and comply with all requirements of this contract. The work and professional opinions rendered in this report were conducted or developed in accordance with commonly accepted procedures consistent with applicable standards of practice.

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## TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
<b>PROFESSIONAL CERTIFICATION.....</b>	<b>iii</b>
<b>ACRONYMS .....</b>	<b>vi</b>
<b>1.0 DECLARATION OF THE RECORD OF DECISION .....</b>	<b>1-1</b>
1.1 SITE NAME AND LOCATION .....	1-1
1.2 STATEMENT OF BASIS AND PURPOSE .....	1-1
1.3 ASSESSMENT OF THE SITE .....	1-1
1.4 DESCRIPTION OF THE SELECTED REMEDY .....	1-3
1.5 STATUTORY DETERMINATIONS .....	1-4
1.6 DATA CERTIFICATION CHECKLIST.....	1-5
1.7 AUTHORIZING SIGNATURES .....	1-6
<b>2.0 DECISION SUMMARY .....</b>	<b>2-1</b>
2.1 SITE NAME, LOCATION, AND DESCRIPTION .....	2-1
2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES .....	2-1
2.2.1 NAS Whiting Field History .....	2-1
2.2.2 Site 35 History.....	2-1
2.3 HIGHLIGHTS OF COMMUNITY PARTICIPATION .....	2-5
2.4 SCOPE AND ROLE OF REMEDIAL ACTION SELECTED FOR SITE 35 .....	2-5
2.5 SITE CHARACTERISTICS .....	2-5
2.5.1 Nature and Extent of Contamination .....	2-5
2.5.2 Ecological Habitat .....	2-6
2.5.3 Migration Pathways.....	2-6
2.5.4 Current and Potential Future Site Land Use .....	2-7
2.6 SUMMARY OF SITE RISKS .....	2-7
2.6.1 HHRA .....	2-7
2.6.2 ERA .....	2-9
2.6.3 Site Risk Summary .....	2-10
2.7 REMEDIAL ACTION OBJECTIVES.....	2-10
2.7.1 Cleanup Goals .....	2-11
2.8 DESCRIPTION OF ALTERNATIVES .....	2-11
2.9 SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES.....	2-13
2.10 SELECTED ALTERNATIVE.....	2-13
2.10.1 Summary of Rationale for Remedy .....	2-13
2.10.2 Remedy Description – ECs AND LUCs .....	2-17
2.10.3 Summary of Estimated Remedy Costs .....	2-19
2.10.4 Expected Outcome of the Selected Remedy.....	2-19
2.11 STATUTORY STATEMENT.....	2-19
2.12 DOCUMENTATION OF SIGNIFICANT CHANGES.....	2-21
<b>REFERENCES.....</b>	<b>R-1</b>

## TABLE OF CONTENTS (Continued)

### **APPENDICES**

#### **A COMMUNITY RELATIONS RESPONSIVENESS SUMMARY**

##### **TABLES**

<b><u>NUMBER</u></b>	<b><u>PAGE</u></b>
1-1 Data Certification Checklist .....	1-5
2-1 Investigative History .....	2-4
2-2 Summary of Remedial Alternatives Evaluated .....	2-12
2-3 Explanation of Detailed Analysis Criteria .....	2-14
2-4 Summary of Comparative Analysis of Soil Remedial Alternatives .....	2-15
2-5 Selected Alternative Cost Estimate Summary .....	2-20
2-6 Summary Evaluation of Selected Remedy .....	2-22
2-7 Summary of Federal and State ARARs and Guidance Specific to Selected Remedy .....	2-23

##### **FIGURES**

<b><u>NUMBER</u></b>	<b><u>PAGE</u></b>
1-1 Site 35 Location and Area Map.....	1-2
2-1 Site 35 Subsurface Soil Boring Location Map .....	2-2
2-2 Site 35 Approximate EC and LUC Boundary Map.....	2-18

## ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
BaP	benzo(a)pyrene
bls	below land surface
BSLs	Background Screening Levels
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CG	Cleanup Goal
CLP	Contract Laboratory Program
COC	constituent of concern
COPCs	constituents of potential concern
cPAHs	Carcinogenic Polynuclear Aromatic Hydrocarbons
CTLs	Cleanup Target Levels
EC	Engineering Controls
EPC	Exposure Point Concentration
ERA	ecological risk assessment
EE	Envirodyne Engineers, Inc.
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FS	Feasibility Study
ft	Feet/foot
GCTLs	Groundwater Cleanup Target Levels
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
IAS	Initial Assessment Study
ILCRs	Incremental Lifetime Cancer Risk
IR	installation restoration
LE	Leachability
LUCs	Land Use Controls
LUCIP	Land Use Controls Implementation Plan
mg/kg	Milligrams per kilogram
NA	No Action
NAS	Naval Air Station
Navy	United States Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
NPL	National Priorities List
NPW	net present worth
O&M	Operations and Maintenance
OU	Operable Unit
PAH	Polynuclear Aromatic Hydrocarbon
PRG	Preliminary Remediation Goal
RA	Remedial Action
RAO	Remedial Action Objective
ROD	Record of Decision

## ACRONYMS (Continued)

RD	Remedial Design
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
SARA	Superfund Amendments and Reauthorization Act
SCTLs	Soil Cleanup Target Levels
SERA	screening ecological risk assessment
SPLP	Synthetic Precipitate Leaching Procedure
SSI	Site Screening Investigation
TAL	Target Analyte List
TBC	To Be Considered
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds



## **1.0 DECLARATION OF THE RECORD OF DECISION**

### **1.1 SITE NAME AND LOCATION**

Naval Air Station (NAS) Whiting Field is located approximately 5.5 miles north of the city of Milton, Florida in Santa Rosa County, about 25 miles northeast of Pensacola (Figure 1-1). Operable Unit (OU) 22 -Site 35, Building 1429, the Public Works Maintenance Facility, hereafter referred to as "Site 35", is located in the industrial area of NAS Whiting Field, Milton, Florida.

### **1.2 STATEMENT OF BASIS AND PURPOSE**

This decision document presents the selected remedy for OU 22 - Site 35 as Engineering Controls (ECs) and Land Use Controls (LUCs) for surface and subsurface soils. Groundwater at NAS Whiting Field has been identified as a separate site (Site 40, Basewide Groundwater) and will be addressed in a future decision document. There is no surface water or sediment present at Site 35. The selected action was chosen by the United States Navy (Navy) and the United States Environmental Protection Agency (USEPA) in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Information supporting the selection of this action is contained in the Administrative Record for this site. The NAS Whiting Field Information Repository, including the Administrative Record, is located at the West Florida Regional Library, Milton Branch, 805 Alabama Street, Milton, Florida 32570, (850) 623-5565.

The Florida Department of Environmental Protection (FDEP) concurs with the selected remedy.

### **1.3 ASSESSMENT OF THE SITE**

The Remedial Investigation (RI) Report for Sites 05/5A, 07, 29, 35, and 38 [Tetra Tech NUS, Inc. (TtNUS), 2005] identified five volatile organic compounds (VOCs), one polynuclear aromatic hydrocarbon (PAH), and 17 inorganics in the subsurface soil at Site 35. Two constituents benzo(a)pyrene (BaP) and chromium, were selected as constituents of potential concern (COPCs) for subsurface soil and one constituent, BaP, was selected as a constituent of concern (COC) for subsurface soil at Site 35 under a residential land use scenario. As a result, human health risks were identified for exposure to subsurface soils at Site 35 under a residential land use scenario. A summary of site risks is provided in Section 2.6 of this Record of Decision (ROD).

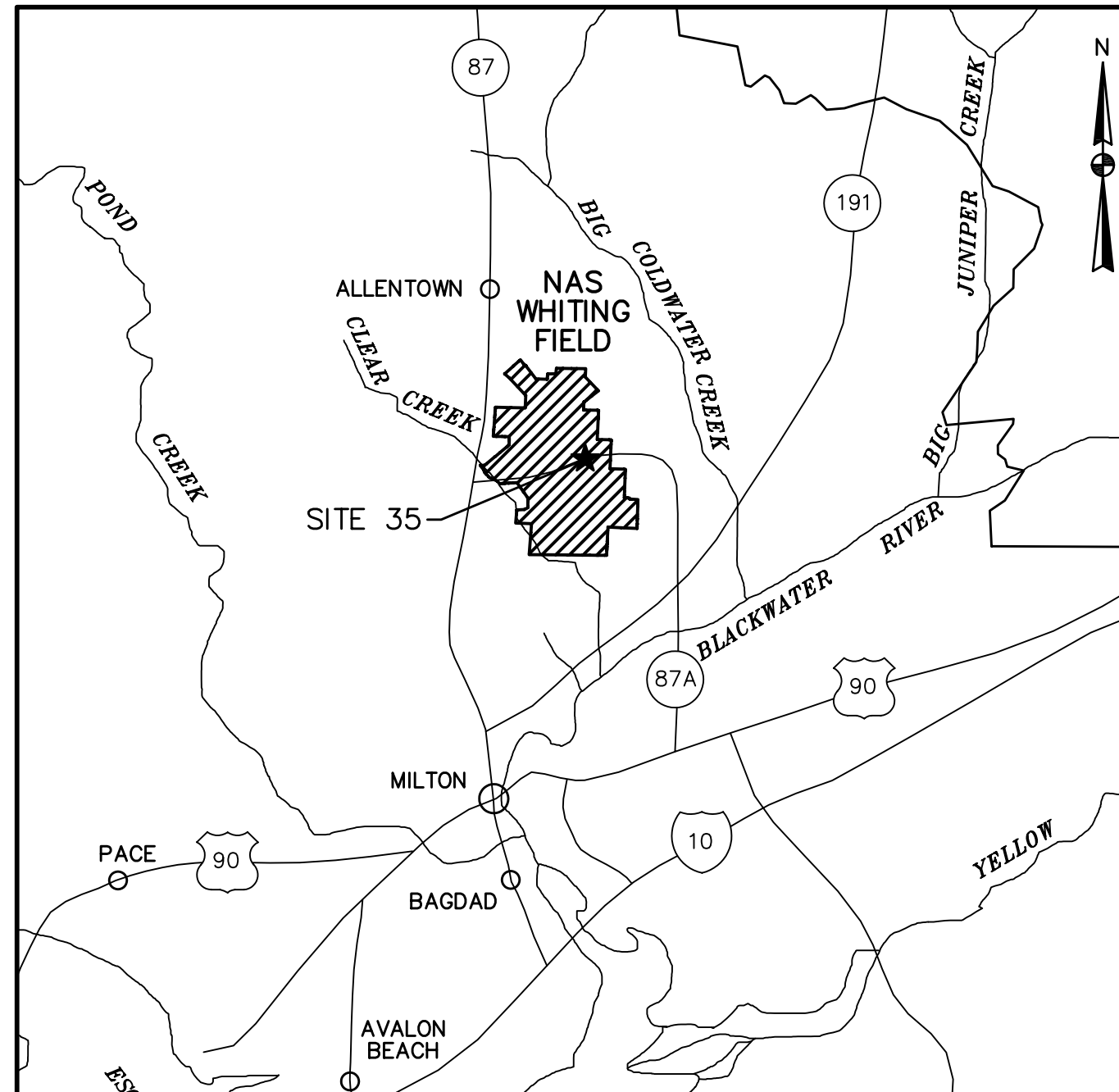
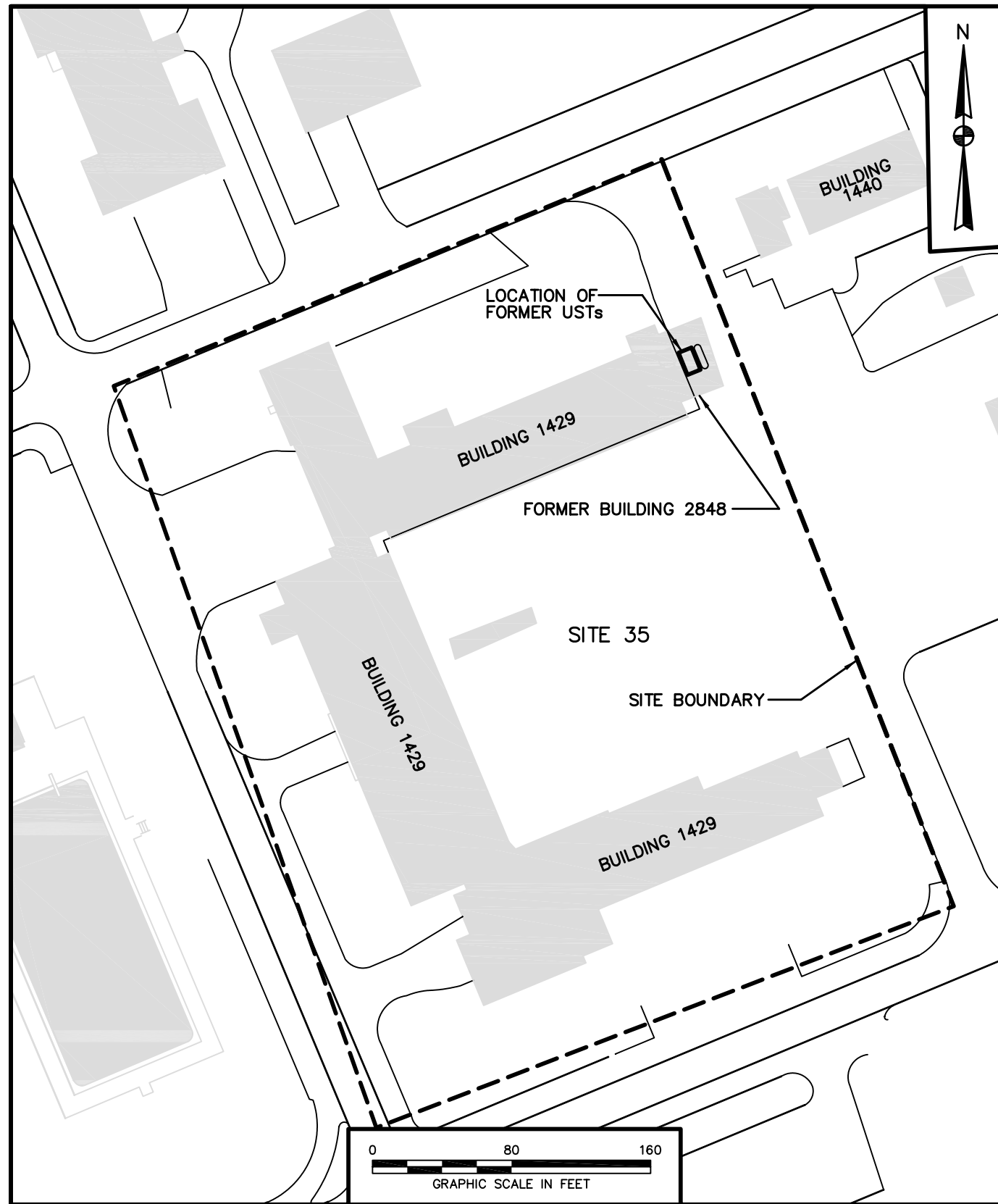


FIGURE 1-1  
SITE 35 LOCATION AND AREA MAP  
RECORD OF DECISION  
NAS WHITING FIELD, MILTON, FLORIDA



The ecological risk assessment (ERA) presented in the RI did not identify any unacceptable ecological risks at Site 35; therefore, further ecological study is unwarranted because the site is limited in the quantity and quality of habitat. Site 35 is characterized by buildings, concrete and asphalt surfaces, and a parking lot.

As a result of the moderate human activity and vehicle noise, terrestrial wildlife is deterred from using the site. Most importantly, the limited size and habitat of the site serves to restrict the amount of food available to upper trophic level organisms. A discussion of the ecological risk is presented in Section 2.6.2.

The response action selected is necessary to protect public health or welfare or the environment from the actual or threatened releases of hazardous substances into the environment.

#### **1.4 DESCRIPTION OF THE SELECTED REMEDY**

This ROD presents the final action for surface and subsurface soils at Site 35 and is based on results of the RI (TtNUS, 2005), and the Feasibility Study (FS) (TtNUS, 2006a). This ROD only addresses surface and subsurface soil at Site 35.

This ROD does not address actual or potential groundwater contamination at the site. Groundwater at NAS Whiting Field has been identified as a separate site (Site 40, Basewide Groundwater) and will be addressed in a future decision document. No surface water or sediment is present at Site 35.

The selected remedy for Site 35 is ECs and LUCs for subsurface soils. ECs will consist of the existing concrete/asphalt cover. The ECs and LUCs will be implemented as described in Alternative 2 in the FS (TtNUS, 2006a). The purpose of such controls is to prevent future exposures to subsurface soils posing unacceptable human health risks. Implementation of ECs and LUCs at Site 35 would include all activities as listed below:

- Development and implementation of ECs and LUCs prohibiting future residential development including housing, child care facilities, elementary and secondary schools, and playgrounds at the site.
- Utilizing the existing concrete/asphalt surface as part of the ECs.
- LUCs prohibiting digging into or disturbance of the existing concrete/asphalt surfaces or soil at the site.

Specific implementation and maintenance actions to ensure the viability of the selected remedy will be described in a Remedial Design (RD) document to be prepared in accordance with USEPA guidance.

Within 90 days of ROD signature, the Navy shall prepare and submit a RD to the USEPA and FDEP for review and approval. The RD shall contain EC and LUC implementation and maintenance actions, including periodic inspections.

The RD will include ECs and LUCs restricting use/access to the land at Site 35 and place regulatory control on any activities at the site. The RD will be implemented and enforced in compliance with all local, state and federal regulations. The RD describes all planned operations, maintenance, inspections, and monitoring that will take place at the site.

As part of EC and LUC implementation, follow up site inspections/reviews are required to ensure compliance while the ECs and LUCs are in effect. Under CERCLA regulations, site reviews must take place every five years. ECs and LUCs will be maintained until concentrations of hazardous substances in soil reach levels that allow for unrestricted use and unlimited exposure. The Navy will be responsible for implementing, maintaining, reporting on, and enforcing the LUCs and making sure the ECs remain in place and are maintained.

The Navy estimates the net present worth (NPW) cost of the selected remedy is approximately \$103,000 over a 30-year period. The selected remedy must remain in place indefinitely, unless all contaminated subsurface soils are removed or subsequent sampling demonstrates they meet then applicable criteria for unrestricted use of the site.

## **1.5 STATUTORY DETERMINATIONS**

The EC and LUC remedy selected for surface and subsurface soils at Site 35 ensures protection of human health and the environment under a residential land use scenario, complies with federal and state requirements legally applicable or relevant and appropriate, is cost effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

This remedy does not satisfy the statutory preference for treatment as a principal element of the remedy (i.e., reduction in the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants through treatment as a principal element) because contaminated soils will remain in place. Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on site above residential health-based levels, a statutory review will be required every five years after initiation of the remedy to ensure the remedy continues to be protective of human health and the environment.

## 1.6 DATA CERTIFICATION CHECKLIST

The information required to be included in the ROD is summarized on Table 1-1. These data are presented in Section 2.0, Decision Summary, of this ROD. Additional information, if required, can be found in the NAS Whiting Field Administration Record for Site 35.

**TABLE 1-1**  
**DATA CERTIFICATION CHECKLIST**  
**SITE 35 – BUILDING 1429, PUBLIC WORKS MAINTENANCE FACILITY**  
**RECORD OF DECISION**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**

Information	ROD Reference
Constituents of Concern (COCs).	Section 2.5.1.2 Page 2-6
Baseline risk represented by the COCs.	Section 2.6.1 and 2.6.3 Pages 2-7 and 2-10
Cleanup Goals (CGs) established for the COCs.	Section 2.7.1 Pages 2-11
Disposition of source materials constituting principal threat.	Section 2.2 Page 2-1
Current and reasonably anticipated future land use scenarios used for risk assessment.	Section 2.5.4 Page 2-7
Potential land uses available at the site as a result of the selected remedy.	Section 2.10.4 Page 2-21
Estimated capital, operation and maintenance (O&M), and net present worth (NPW) costs, discount rate used and timeframe these costs are projected for the selected remedy.	Section 2.10.3 Page 2-19  Table 2-5 Page 2-20
Key factors leading to the selection of the remedy.	Section 2.10.1 Page 2-18

1.7

**AUTHORIZING SIGNATURES**

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*25 Sep 06*

Date

*Beverly H. Banister*

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U.S. EPA, Region 4

*10/2/06*

Date

## **2.0 DECISION SUMMARY**

### **2.1 SITE NAME, LOCATION, AND DESCRIPTION**

Site 35, Building 1429, the Public Works Maintenance Facility, is located in the industrial area of NAS Whiting Field, Milton, Florida (Figure 2-1). NAS Whiting Field presently consists of two airfields (North and South Field) and serves as a naval aviation training facility providing support facilities for flight and academic training.

### **2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES**

#### **2.2.1 NAS Whiting Field History**

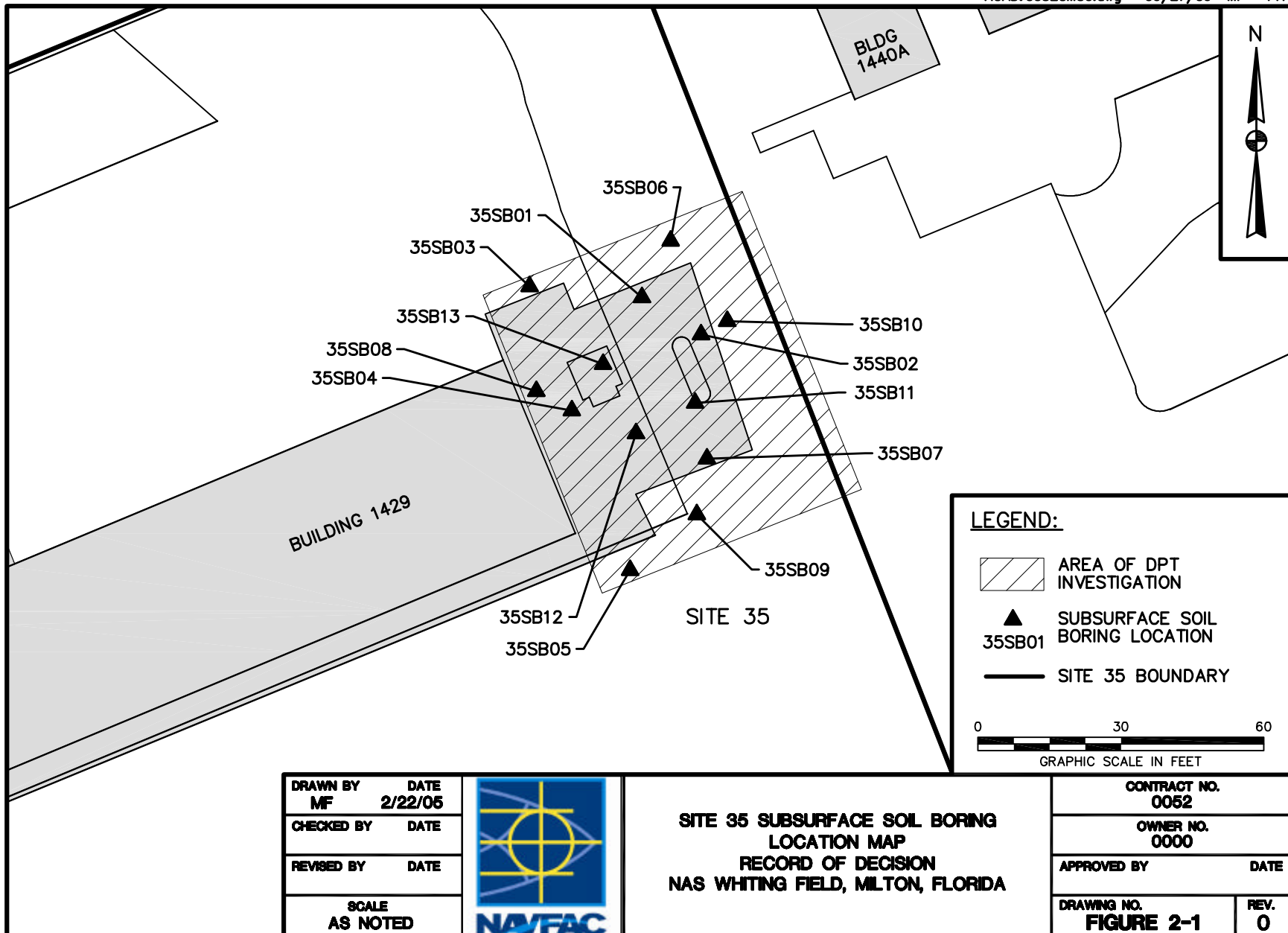
NAS Whiting Field was placed on the National Priorities List (NPL) by the USEPA in June 1994. Following the listing of NAS Whiting Field on the NPL, remedial response activities have been conducted pursuant to CERCLA authority. The decision documents and remedy selection for NAS Whiting Field are developed by the Navy, the lead agency, and the USEPA, a support agency, with concurrence from FDEP, a support agency.

The first environmental studies for the investigations of waste handling and/or disposal sites at NAS Whiting Field were conducted during the Initial Assessment Study (IAS) [Envirodyne Engineers, Inc. (EE), 1985]. A record search indicated throughout its years of operation, NAS Whiting Field generated a variety of wastes related to pilot training, operation and maintenance of aircraft and ground support equipment, and facility maintenance programs.

#### **2.2.2 Site 35 History**

Site 35 consists of Building 1429, the Public Works Maintenance Facility (Figure 2-1). Building 1429 was built in 1943 and used for the maintenance of vehicles and equipment, generation of power and heat, storage of fire fighting equipment, woodworking and metals repair, and offices. A gasoline service station (formerly Building 2848) with a pump island and underground fuel storage tanks was located at the northeast side of the building. The service station was equipped with three underground storage tanks (USTs) (one diesel – tank Number 2851 and two gasoline – tank Numbers 1429 I and 1429 J) located west of the pump island and under the vehicle shed. All three tanks were abandoned in place in 1984. The tanks were abandoned by pumping out the remaining fuel, filling the tanks with sand and capping the fill ports with concrete. None of the tanks have been removed since abandonment.

Based on a record search and interviews with facility personnel, Building 1429 was identified as a potential site in July 1993 and designated as Site 35. The site was added to the IR program in 1995 and a Site Screening





Investigation (SSI) was initiated in December 1996. The purpose of the SSI was to complete an initial screening assessment to determine if contaminants were present and if additional investigations were warranted.

The SSI included the advancement of soil borings, subsurface soil sampling, monitoring well installation, and groundwater sampling. Four soil borings were advanced to a depth of 30 feet (ft) below land surface (bls) at Site 35. One additional soil boring (35B001) was advanced to a depth of 54 ft bls. The deeper soil boring was located to investigate the fuel pump island and UST area. All of the soil borings were continuously split spoon sampled to the total depth of the boring. Confirmation soil samples were also collected for a fixed-base laboratory analysis. Three subsurface soil samples from each soil boring were analyzed for VOCs.

During the RI, 10 subsurface soil samples were collected from four borings (35SB10, 35SB11, 35SB12, and 35SB13) at Site 35. The four soil borings were selected for sampling based on the flame ionization detector (FID) readings. The samples were analyzed for VOCs, PAHs, total recoverable petroleum hydrocarbons (TRPH), and target analyte list (TAL) inorganics. Analytical results are summarized in the RI Report (TtNUS, 2005) with Soil Cleanup Target Levels (SCTLs) from Chapter 62-777, Florida Administration Code (F.A.C.) (FDEP, 2005), USEPA Preliminary Remediation Goal (PRG) values (USEPA, 2002), and the background screening levels (BSLs). Synthetic Precipitate Leaching Procedure (SPLP) leachate analytical results are summarized in the RI.

Five VOCs, one PAH, and 17 inorganics were detected in the subsurface soil. Ethylbenzene and total xylenes were detected above the FDEP leachability SCTL. Vanadium was detected above the FDEP Residential SCTL (FDEP, 2005). Chromium was detected above the USEPA Residential PRG. Aluminum and lead were detected above the FDEP Groundwater Cleanup Target Levels (GCTLs) (FDEP, 2005) in subsurface soil leachate samples. Arsenic was detected above the FDEP and USEPA regulatory limits and iron and was detected above the FDEP Residential SCTL (FDEP, 2005).

The individual inorganic constituents, aluminum, arsenic, iron, and vanadium, detected at the site have no direct evidence of site-related use at Site 35 and the process and procedures at this site did not likely contribute to the presence of these inorganics in subsurface soil. Additionally, the site-specific concentrations for these inorganics are within the range of levels found at NAS Whiting Field. Considering the information presented above, aluminum, arsenic, iron, and vanadium were dropped from consideration as COPCs for Site 35 subsurface soils.

Table 2-1 summarizes the Site 35 investigative history.

The current land use at Site 35 is industrial and no change is anticipated in the future land use for Site 35.

**TABLE 2-1**  
**INVESTIGATIVE HISTORY**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429, PUBLIC WORKS MAINTENANCE FACILITY**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**

<b>Date</b>	<b>Investigation Title</b>	<b>Activities</b>	<b>Findings</b>
2000 – 2001	<i>Remedial Investigation Report for Surface and Subsurface Soil, Sites 5, 7, 29, 35, and 38, NAS Whiting Field, Milton, Florida (TtNUS, 2005)</i>	<ul style="list-style-type: none"> <li>• Installation of 13 soil borings via DPT</li> <li>• Collection and analysis of 10 subsurface soil samples</li> <li>• HHRA</li> <li>• ERA</li> </ul>	<ul style="list-style-type: none"> <li>• Five VOC, one PAH, and 17 inorganics were detected in the subsurface soil. Ethylbenzene and total xylenes were detected above the FDEP LE SCTL. Vanadium was detected above the FDEP DE1 SCTL. Chromium was detected above the USEPA Residential PRG. Aluminum and lead were detected above the FDEP GCTLs in subsurface soil leachate samples. Arsenic was detected above the FDEP and USEPA regulatory limits and iron and was detected above the FDEP DE1 SCTL.</li> <li>• The HHRA determined there is one COC (benzo(a)pyrene), and unacceptable risk from exposure to subsurface soils for current and future receptors at Site 35.</li> <li>• The ERA does not predict unacceptable risks to plants or animals from chemicals present in surface soil at Site 35.</li> </ul>
2006	<i>Feasibility Study for Surface and Subsurface Soil at Site 35, NAS Whiting Field, Milton, Florida (TtNUS, 2006a).</i>	<ul style="list-style-type: none"> <li>• Evaluated remedial alternatives for site cleanup of COCs.</li> </ul>	<ul style="list-style-type: none"> <li>• One subsurface soil COC identified.</li> </ul>
2006	<i>Proposed Plan, Site 35, Building 1429, NAS Whiting Field, Milton, Florida, (TtNUS, 2006b)</i>	<ul style="list-style-type: none"> <li>• Established public comment period from 15 August through 14 September 2006.</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed remedy: Engineering Controls and Land Use Controls for Site 35 surface and subsurface soils.</li> <li>• No comments received.</li> </ul>

Notes:

HHRA = human health risk assessment

ERA = ecological risk Assessment

COC = constituent of concern

FDEP = Florida Department of Environmental Protection

TtNUS = Tetra Tech, NUS, Inc.

USEPA = United States Environmental Protection Agency

## **2.3 HIGHLIGHTS OF COMMUNITY PARTICIPATION**

The RI Report (TtNUS, 2005), the FS (TtNUS, 2006a), and the Proposed Plan (TtNUS, 2006b) for Site 35 were made available to the public for review in August 2006. These documents, and other Installation Restoration (IR) program information, are contained within the Administrative Record in the Information Repository at the West Florida Regional Library, Milton, Florida, 805 Alabama Street, Milton, Florida, 32570.

The notice of availability of all site-related documents was published in the Santa Rosa Press Gazette and Pensacola News Journal on 13 August and 14 August 2006, respectively, and targeted the communities closest to NAS Whiting Field. The availability notice presented information on the RI and FS at Site 35 and invited community members to submit written comments on the Proposed Plan.

A public comment period was held from 15 August through 14 September 2006, to solicit comments on the Proposed Plan. The comment period included an opportunity for the public to request a public meeting; however, a public meeting was not held because one was not requested. The site-related documents were placed in the Information Repository and made available for the public to review. Comments received during the public comment period are presented in the Responsiveness Summary in Appendix A.

## **2.4 SCOPE AND ROLE OF REMEDIAL ACTION SELECTED FOR SITE 35**

ECs and LUCs were designated as the preferred remedy in the Proposed Plan for the surface and subsurface soils at Site 35. The groundwater at NAS Whiting Field has been designated as a separate site (Site 40, Basewide Groundwater) and is not addressed in this ROD. No surface water or sediment exists at Site 35.

## **2.5 SITE CHARACTERISTICS**

Site 35, Building 1429, the Public Works Maintenance Facility, is located in the industrial area at NAS Whiting Field, Milton, Florida (Figure 2-1).

### **2.5.1 Nature and Extent of Contamination**

Historical aerial photographs and engineering drawings, provided by the Navy, were evaluated during the planning phases of the RI. The objective of the evaluation was to determine the operational history of Site 35 and to verify earlier historical accounts.

As part of the RI conducted for Site 35, data were collected to determine the nature and extent of releases of site-derived contaminants in subsurface soil, to identify potential pathways of migration in subsurface soil, and to evaluate risks to human and ecological receptors.

#### **2.5.1.1 Surface Soil**

Site 35 is completely covered by concrete and asphalt; therefore, Site 35 has no surface soil to sample.

#### **2.5.1.2 Subsurface Soil**

Subsurface soil (below 2 ft bls) sampling was conducted at Site 35 to determine the nature and extent of contamination at the site and to assess whether or not subsurface soil could potentially serve as an exposure pathway to human or ecological receptors. Constituents detected in subsurface soil at Site 35 included five VOCs, one PAH, and 17 inorganics. Two constituents, BaP and chromium, were identified as COPCs in the RI for subsurface soil at Site 35. Following the risk assessment, one constituent, BaP was selected as a COC for subsurface soil at Site 35.

Cleanups Goals (CGs) establish acceptable exposure levels protective of human health and the environment. BaP was detected at a maximum concentration of 0.335 milligrams per kilogram (mg/kg) which exceeds the CG of 0.1 mg/kg (the FDEP residential SCTL) under a residential land use scenario.

A complete list of all constituents sampled and their detected concentrations in subsurface soil is available in the RI report (TtNUS, 2005).

#### **2.5.2 Ecological Habitat**

Site 35 is severely limited in the quantity and quality of habitat for ecological receptors because it is heavily industrialized, characterized by buildings, concrete surfaces, and moderate human activity. Most importantly, the limited size and habitat of the site serves to restrict the amount of food available to upper trophic level organisms.

#### **2.5.3 Migration Pathways**

Benzo(a)pyrene is the only COC in soil at Site 35. The primary agents of migration acting on soil include wind, water, and human activity. Soil can also act as a source medium, allowing the COC to be transported to other media. Transport of the COC from soil via wind is not expected to be a major transport mechanism due to the depth (18-20 ft bls) and location of the COC at Site 35. The water table at Site 35 is approximately 105 ft bls.

Humans and, to a lesser extent, ecological receptors are effective at moving soil and can greatly affect the transport of soil-bound constituents. Under the current land use scenario at Site 35, human activity and ecological receptors are not major transport mechanisms for the COC in subsurface soil at 18-20 ft bls.

The transport of soil by water and, therefore, COCs in soil, via the mechanisms of physical transport of soil or the leaching of constituents from the soil to groundwater, is not a concern at Site 35. Soil erosion - the physical transport of soil via surface water runoff - is currently not considered a major mechanism for the transport of the COCs in soil at Site 35 due to the depth and nature of the constituent remaining in the soil at the site and due to the entire site being covered by concrete and/or asphalt.

#### **2.5.4            Current and Potential Future Site Land Use**

The current land use at Site 35 is industrial and due to its proximity to the industrial area of the base, this is not expected to change in the near future. Potential future residential land use will be restricted under the selected remedy. Residential development including housing, child care facilities, elementary and secondary schools, and playgrounds will be prohibited at the site. Storage facilities, commercial shops, and warehouses will be allowed under the selected remedy.

### **2.6                SUMMARY OF SITE RISKS**

A risk assessment was completed for Site 35 to predict whether the site would pose current or future threats to human health or the environment. Both a human health risk assessment (HHRA) and an ERA were performed for Site 35. These risk assessments evaluated the constituents detected in site soil during the RI.

The HHRA and the ERA provide the basis for selecting the remedial alternative for Site 35. This section of the ROD summarizes the results of the HHRA and the ERA.

#### **2.6.1            HHRA**

An HHRA was conducted at Site 35 to characterize the risks associated with potential exposures to site-related contaminants for human receptors. The HHRA is provided in Chapter 5.0 of the RI Report (TtNUS, 2005).

Four potential receptors were evaluated for the HHRA at Site 35. These receptors are:

- A construction worker. The construction worker was considered to perform intrusive work at relatively short durations. The construction worker is the only receptor potentially exposed to subsurface soil.

- A site occupational worker. The site occupational worker was assumed to be on site in a commercial/industrial scenario.
- A trespasser or visitor. These individuals may occasionally enter the site with or without proper authorization. Both an adult and an older child were considered.
- A future resident. The on-site resident is considered highly unlikely; however, this pathway was considered for purposes of completeness and conservatism.

### **Selection of COPCs for Site 35**

The COPC selection method is described in the RI report (TtNUS, 2005). The initial COPCs included five carcinogenic constituents; therefore, the carcinogenic screening levels were divided by five. The following constituents were identified as COPCs for subsurface soil at Site 35: BaP, aluminum, chromium, iron, and vanadium.

#### **2.6.1.1 Risk Characterization**

The methodology used to calculate the risk estimates is provided in RI Report (TtNUS, 2005) for Site 35. The FDEP SCTLs are primarily the basis for the risk characterization conducted at Site 35. Region IX PRGs are used for noncarcinogenic risk characterization where only carcinogenic SCTLs are available and both a noncarcinogenic and carcinogenic effect are expected from the constituent.

Risk characterization for the risk-screening of Site 35 consists of calculating a ratio between the maximum detected concentration and the SCTL (or PRG, as stated in the previous paragraph.) Carcinogenic and noncarcinogenic effects were evaluated separately. Ratios were calculated for both the residential land-use scenario and the industrial land-use scenario. The human health risk estimates produced for the residential scenario are not reflective of actual current or anticipated future conditions at the sites under investigation because the current and anticipated land use at the sites is industrial. However, the risk characterization based on exposure assumptions reflecting a residential land-use scenario is conservative and is helpful for information and comparison purposes.

A media-specific discussion of the estimated carcinogenic and non-carcinogenic risks is provided in the remainder of this section.

#### **2.6.1.1.1 Subsurface Soils**

##### **Carcinogenic Risks**

The estimated incremental lifetime cancer risk (ILCRs) calculated for the hypothetical future resident and the typical occupational worker (based on the Florida SCTLs) are 5.0E-06 and 1.0E-06, respectively. These risk estimates are within the USEPA target risk range often used to evaluate the need for environmental remediation; but exceed the State of Florida benchmark of 1E-06. The primary risk driver BaP is one of many carcinogenic PAHs. The ILCR for BaP exceeds 1E-06 for the hypothetical future resident. The ILCR for chromium do not exceed 1E-06 for either the hypothetical future resident or the typical occupational worker.

##### **Noncarcinogenic Risks**

The total hazard index (HI) calculated for the industrial scenario was less than 1.0, indicating adverse noncarcinogenic health effects are not anticipated under the conditions established in the exposure assessment for non-residential exposure under a industrial land use scenario.

#### **2.6.1.2 Uncertainty Analysis**

General uncertainties associated with the risk estimation process and site-specific uncertainties are discussed or referenced in the RI.

#### **2.6.2 ERA**

A screening ecological risk assessment (SERA) was performed for Site 35. It is unlikely there would be significant contact between ecological receptors and contaminants in the subsurface soil at site 35 (18-20 ft bls). Typical avian receptors (e.g., bobwhite quail and American woodcock) do not burrow in the subsurface soil. Typical small mammal receptors (e.g., meadow vole and short-tail shrew) may burrow in the soil, but rarely deeper than 50 centimeter, eliminating exposure through direct contact. Because most, if not all, of the food (i.e., plants, soil invertebrates) consumed by these birds and mammals will primarily be exposed to contaminants in the surface soil (0 to 2 ft bls), the upper trophic level receptors will not be exposed to the subsurface soil through incidental ingestion or consumption of organisms and/or vegetation. Therefore, subsurface soils at Site 35 do not pose unacceptable ecological risk and further evaluation is unwarranted.

### **2.6.3      Site Risk Summary**

The HHRA was conducted to determine if a human health risk exists for a construction worker, on-site worker, trespasser or future resident. According to the HHRA, iron, chromium, and vanadium do not pose a human health risk. According to the HHRA, the regulatory limit for vanadium is based on a child exhibiting pica behavior. This rare behavior results in a child consuming 10 grams of soil in a single event. Using a more moderate and reasonable value no human health risk for a site occupational worker, trespasser, visitor, or future resident exists. This assumption is further validated by the Technical Report: Development of SCTLs for Chapter 62-777, F.A.C (FDEP, 2005). This report suggests a SCTL of 67 mg/kg for Vanadium is more appropriate and realistic.

The primary risk driver is BaP. The ILCR for BaP exceeds the State of Florida risk benchmark 1E-06 for the hypothetical future resident. BaP may pose a risk to future residents.

Based on BaP, unacceptable human health risks have been identified for Site 35 subsurface soils under a residential land use scenario. No unacceptable ecological risks have been identified at Site 35.

## **2.7      REMEDIAL ACTION OBJECTIVES**

The Remedial Action Objectives (RAOs) for Site 35 are:

- To address possible future risk of direct exposure to subsurface soil exceeding the FDEP SCTL for BaP.
- To comply with federal and state applicable or relevant and appropriate requirements (ARARs) and consider to be considered (TBC) guidance in accordance with accepted USEPA and FDEP guidelines.

The RAOs for this site are formulated based on the following criteria:

- Unacceptable human health risk exists for direct exposure to subsurface soil based on a residential land use scenario at the site.
- FDEP SCTLs (residential land use).
- USEPA Region IX PRGs (residential land use).

The current and future use of the property at this site remains industrial.



### 2.7.1 **Cleanup Goals**

Cleanup Goals (CGs) establish acceptable exposure levels protective of human health and the environment. The following soil CGs were established for the Site 35 COC:

COC	CG
Benzo(a)Pyrene	0.1 mg/kg <sup>(1)</sup>

(1) FDEP SCTL for direct exposure, residential

The CGs were used to determine the areas and volumes of surface and subsurface soils with the potential to impact human health under a residential land-use scenario. The estimated area of contaminated soil exceeding the CG is 100 square feet with an estimated volume of 74 cubic yards.

## 2.8 **DESCRIPTION OF ALTERNATIVES**

As stated in the Proposed Plan (TtNUS, 2006b) and in previous sections of this document, three remedial alternatives were evaluated in the FS (TtNUS, 2006a) based on the revised HHRA included in the RI (TtNUS, 2005). Cleanup alternatives were developed by the Navy, the USEPA, and the FDEP. The three remedial alternatives are listed below and summarized in Table 2-2.

**Alternative 1:** No Action (NA)

**Alternative 2:** ECs and LUCs for Subsurface Soil

**Alternative 3:** Subsurface Soil Removal

These alternatives were developed in consideration of site risks, the anticipated future industrial land use, federal and state ARARs and guidance, and the limited ecological habitat at Site 35. These alternatives primarily address protection of human health because, as discussed previously, no unacceptable ecological risk was identified. A detailed description of the three alternatives is provided below.

**Alternative 1:** NA. This alternative [estimated total NPW cost of \$0] is required by CERCLA as a baseline for comparison with the other alternatives. The NA alternative assumes no remedial action (RA) would occur and establishes a basis for comparison with the other alternatives. No RA, treatment, LUCs, or monitoring of site conditions would be implemented under the NA alternative. Alternative 1 does not meet chemical-specific ARARs, and there are no action-specific ARARs for this alternative.

**TABLE 2-2**  
**SUMMARY OF REMEDIAL ALTERNATIVES EVALUATED**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**

<b>Alternative</b>	<b>Description of Key Components</b>	<b>Cost<sup>(1)</sup></b>	<b>Duration<sup>(2)</sup></b>
<b>Alternative 1:</b> No Action	No remedial actions are performed at Site 35	\$0	30 Years
<b>Alternative 2:</b> ECs and LUCs	Post warning signs.  Implementation of ECs and LUCs will address contaminants in soil above residential standards. An RD will be submitted to USEPA and FDEP and will detail the implementation plans to prohibit residential use of the property.	\$103,000 <sup>(3)</sup>	30 Years
<b>Alternative 3:</b> Subsurface Soil Removal (exceeding CGs)	Develop project plans for excavation to include delineation/confirmatory sampling.  Excavate subsurface soils exceeding residential land use CGs.  Backfill excavated areas with clean soil and provide a replacement concrete cover for excavated areas.  A RD will be submitted to USEPA and FDEP and will detail the implementation plans to maintain the site for industrial purposes.	\$224,000	30 years

<sup>(1)</sup> Net present worth costs rounded to the nearest thousand dollars.

<sup>(2)</sup> A period of 30 years was chosen for present worth costing purposes only. Under CERCLA, remedial actions must continue as long as hazardous substances, pollutants, or contaminants remain at a site.

<sup>(3)</sup> The cost for implementation of Alternative 2 includes the cost of the required 5-year reviews.

Notes: CG(s) = Cleanup goal(s)  
FDEP = Florida Department of Environmental Protection  
LUC(s) = land use control(s)  
RD = Remedial Design  
USEPA = United States Environmental Protection Agency

**Alternative 2:** ECs and LUCs. (estimated total NPW cost \$103,000): ECs include the existing concrete/asphalt cover at the site and LUCs will prohibit the disturbance of the existing cover and soil and restrict future use of the site to industrial purposes precluding full-time human contact with contaminated surface or subsurface soils. Future and current land-use concerns are addressed by the ECs and LUCs. Alternative 2 achieves compliance with chemical-specific ARARs by implementing ECs and LUCs to prevent exposure to subsurface soils exceeding CGs. Compliance with action-specific ARARs would be achieved by proper selection, implementation, and maintenance of ECs and LUCs.

**Alternative 3:** Subsurface Soil removal. This alternative (estimated total NPW cost \$165,000) involves removal and off-site disposal of subsurface soil exceeding levels allowed for Florida residential sites. Alternative 3 meets chemical-specific ARARs for surface and subsurface soils. Compliance with action-specific ARARs would be achieved by proper design and execution of contaminated soil removal and off-site disposal activities.

## **2.9 SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES**

This section evaluates and compares each of the soil remedial alternatives at Site 35 with respect to the nine criteria outlined in Section 300.430(e) of the NCP. These criteria are categorized as threshold, primary balancing, and modifying and are further explained in Table 2-3. A detailed analysis was performed for each alternative using the nine criteria to select a remedy. Table 2-4 presents a summary comparison of these analyses.

## **2.10 SELECTED ALTERNATIVE**

### **2.10.1 Summary of Rationale for Remedy**

The goals of the selected RA are to protect human health and the environment by eliminating, reducing or controlling hazards posed by the site and to meet ARARs. Based upon the consideration of the requirements of CERCLA, the NCP, the detailed analysis of alternatives, and public comments, ECs and LUCs (as described in the FS) was selected to address subsurface soils at Site 35.

This remedy was selected for the following reasons:

- Although concentrations of a COC remaining in soil exceed screening level criteria for a residential use scenario, they do not present an unacceptable threat to human health or the environment assuming only future non-residential/industrial land uses are permitted at Site 35.

**TABLE 2-3**  
**EXPLANATION OF DETAILED ANALYSIS CRITERIA**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**

Criterion	Description
Threshold	<p><b>Overall Protection of Human Health and the Environment.</b> This criterion evaluates the degree each alternative eliminates, reduces, or controls threats to human health and the environment through treatment, engineering methods, or institutional controls (e.g., access restrictions).</p> <p><b>Compliance with State and Federal Regulations.</b> The alternatives are evaluated for compliance with environmental protection regulations determined to be applicable or relevant and appropriate to the site conditions.</p>
Primary Balancing	<p><b>Long-Term Effectiveness and Permanence.</b> The alternatives are evaluated based on their ability to maintain reliable protection of human health and the environment after implementation.</p> <p><b>Reduction of Contaminant Toxicity, Mobility, and Volume Through Treatment.</b> Each alternative is evaluated based on how it reduces the harmful nature of the contaminants, their ability to move through the environment, and the amount of contamination.</p> <p><b>Short-Term Effectiveness.</b> The potential risks to workers and nearby residents posed by implementation of a particular remedy (e.g., whether or not contaminated dust will be produced during excavation), as well as the reduction in risks resulting from controlling the contaminants, are assessed. The length of time needed to implement each alternative is also considered.</p> <p><b>Implementability.</b> Both the technical feasibility and administrative ease (e.g., the amount of coordination with other government agencies needed) of a remedy, including availability of necessary goods and services, are assessed.</p> <p><b>Cost.</b> The benefits of implementing a particular alternative are weighted against the cost of implementation.</p>
Modifying	<p><b>USEPA and FDEP Acceptance.</b> The final Feasibility Study and the Proposed Plan, placed in the Administrative Record, represent a consensus by the Navy, USEPA, and FDEP.</p> <p><b>Community Acceptance.</b> The Navy assesses community acceptance of the selected alternative by giving the public an opportunity to comment on the remedy selection process and the selected alternative and then responds to those comments.</p>

**TABLE 2-4**  
**SUMMARY OF COMPARATIVE ANALYSIS OF SOIL REMEDIAL ALTERNATIVES**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**  
**PAGE 1 OF 2**

<b>Evaluation Criteria</b>	<b>Soil Alternative 1: No Action</b>	<b>Soil Alternative 2: ECs and LUCs</b>	<b>Soil Alternative 3: Subsurface Soil Removal</b>
Overall Protection of Human Health and Environment	Would not be protective to human receptors exposed to soils at the site.	Would be protective to human receptors. ECs and LUCs would prevent unacceptable potential exposure because residential use would be prohibited.	Would be most protective because all surface and subsurface soils exceeding CGs would be removed, eliminating the risk of exposure. LUCs would prevent potential residents from coming into contact with soil exceeding residential standards at the site. Would also provide protection to ecological receptors however, may end up altering the ecological habitat at the site.
Compliance with ARARs and TBCs: Chemical-Specific Location-Specific Action-Specific	Would not comply Not applicable Not applicable	Would comply Not applicable Would comply	Would comply Not applicable Would comply
Long-Term Effectiveness and Permanence	Would not have long-term effectiveness and permanence because contaminants would remain on site. Any long-term effectiveness would not be known since monitoring would not occur.	Would provide long-term effectiveness and permanence through ECs and LUCs preventing residential development. ECs and LUCs would preclude existing concrete/asphalt cover and soil disturbance. Would require long-term management would be administered by the facility through implementing an approved Remedial Design.	Would provide highest level of long-term effectiveness and permanence by active removal of all impacted soil exceeding residential cleanup levels. Would require implementing an approved RD.
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment	Would not achieve reduction of toxicity, mobility, or volume of contaminants through treatment but may achieve some reduction through natural processes.	Would not achieve reduction of toxicity, mobility, or volume of contaminants through treatment but may achieve some reduction through natural processes.	Would permanently and significantly reduce mobility of contaminants by excavation, transport, and disposal of impacted soil in a secure, regulated landfill. Provides the greatest reduction of risk through soil removal and off-base disposal. Toxicity of excavated soil may be reduced by treatment at a TSDF.

**TABLE 2-4**  
**SUMMARY OF COMPARATIVE ANALYSIS OF SOIL REMEDIAL ALTERNATIVES**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**  
**PAGE 2 OF 2**

Evaluation Criteria	Soil Alternative 1: No Action	Soil Alternative 2: ECs and LUCs	Soil Alternative 3: Subsurface Soil Removal
Short-Term Effectiveness	Would not result in short-term risks to site workers or adversely impact the surrounding community and would not achieve the soil RAOs and CGs.	Would not result in short term risks to site workers or adversely impact the surrounding community and would not achieve the soil CGs.  Estimated time to reach RAOs is less than one year.	Would create potential short term risk to site workers during excavation. Would pose potential short-term risks to community members due to spills during transportation of contaminated soil to an off-site landfill. Environmental impacts (fugitive dust and runoff) are expected to be minimal. Engineering controls would minimize any environmental impacts. RAOs and CGs would be met within less than one year.
Implementability	Would be simple to implement because no action.	Would be easily implemented. Would require monitoring of the site and potential exposure. Equipment, specialists, and materials for this alternative are readily available.	Would be easily implemented. This remedial technology is proven and reliable. Would require use of a TSDF, which are available and have sufficient capacity to meet the requirements of this alternative. Equipment, specialists, and materials for this alternative are readily available.
Cost: Capital NPW O&M (30 year) Total cost, NPW (30 year)	\$0 \$0 \$0	\$23,000 \$80,000 \$103,000	\$87,000 \$78,000 \$165,000

CG = Cleanup Goal  
ECs = Engineering Controls  
LUC = Land Use Control  
NPW = Net Present Worth  
RAO = Remedial Action Objective  
RD = Remedial Design  
TSDF = Transport, Storage, and Disposal Facility

- No unacceptable ecological risks were identified. The site comprises only a small portion of the home ranges of most of the terrestrial wildlife species found on the base.
- The current and future use of the property at this site remains industrial and the current and future receptors are occupational and construction workers.
- Areas of subsurface soil contamination are covered with concrete, preventing exposure as long as this barrier remains in place.

#### **2.10.2      Remedy Description – ECs and LUCs**

Soil contamination remains at Site 35 at concentrations precluding unrestricted use and unlimited exposure; therefore, the remedy includes ECs and LUCs to address unacceptable risk. These ECs and LUCs will be implemented to prohibit residential development and use eliminating unacceptable risks from exposure to contaminated soil. ECs are in place and LUCs will be placed on an area of land slightly larger than the boundaries of the Site 35 UST area ensuring an appropriate buffer zone is created. Figure 2-2 presents the approximate EC/LUC boundaries for Site 35. The ECs and LUCs apply only to surface and subsurface soils.

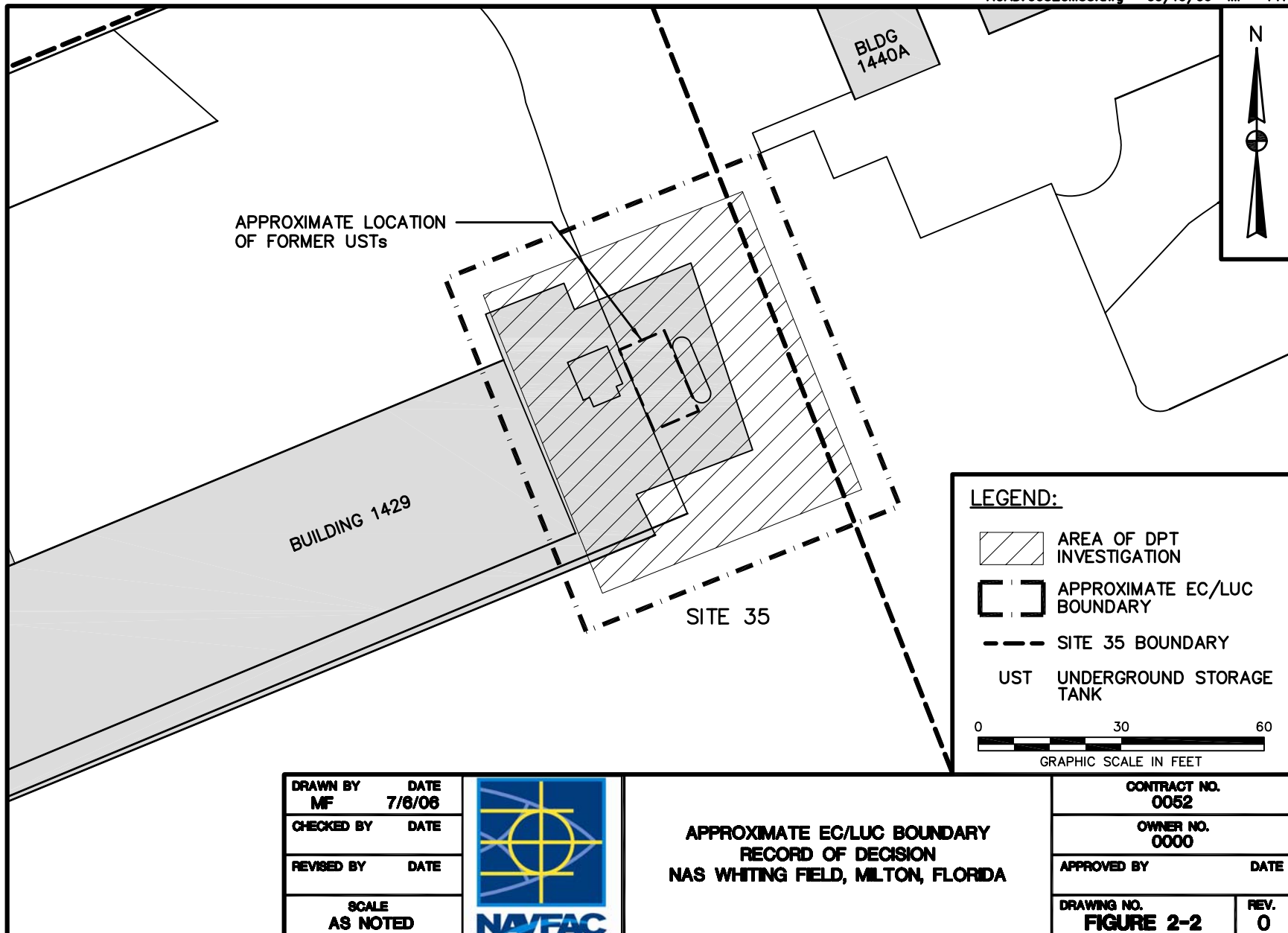
The LUC performance objectives for Site 35 are:

- Maintain the integrity of the remedial system, ECs/LUCs.
- Prohibit the development and use of the property for residential housing, elementary and secondary schools, child care facilities, and playgrounds.
- Maintain the existing concrete/asphalt cover.

The LUCs will:

- Restrict future use of the site to non-residential/industrial activities minimizing human contact with subsurface soils such as storage facilities, commercial shops or warehouses.

The Navy or any subsequent owners shall not modify, delete, or terminate any ECs or LUCs without USEPA and FDEP concurrence. The ECs and LUCs shall be maintained until the concentrations of hazardous substances in the soils have been reduced to levels allowing for unlimited exposure and unrestricted use. The Navy will be responsible for implementing, maintaining, inspecting, reporting, and





enforcing the ECs and LUCs described in this ROD in accordance with the approved RD. Although the Navy may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Navy shall retain ultimate responsibility for remedy integrity. Should this remedy fail, the Navy will ensure appropriate actions are taken to re-establish its protectiveness and may initiate legal action to either compel action by a third party(ies) and/or to recover the Navy's costs for remediating any discovered LUC violation(s).

Within 90 days of ROD signature, the Navy shall prepare and submit a RD, in accordance with USEPA guidance, to the USEPA and FDEP for review and approval. The RD shall contain EC and LUC implementation and maintenance actions, including periodic inspections. When the selected RA is implemented, predicted site risks will be minimized.

#### **2.10.3      Summary of Estimated Remedy Costs**

The estimated total NPW cost of Alternative 2 (from the FS) at Site 35 is approximately \$103,000 over a 30-year period, based upon an annual discount rate of six percent. Table 2-5 summarizes the cost estimate data for Alternative 2. The information is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an explanation of significant differences, or a ROD amendment. The estimate is an order-of-magnitude engineering cost estimate expected to be within +/- 25 percent of the actual project cost.

#### **2.10.4      Expected Outcome of the Selected Remedy**

Immediately upon implementation, Site 35 will be environmentally safe for its current and future intended industrial uses, as long as the ECs and LUCs are in place and functioning.

### **2.11                      STATUTORY STATEMENT**

The alternative selected for Site 35 is consistent with the Navy's IR program, CERCLA, and NCP. The selected remedy for surface and subsurface soil is protective of human health and the environment.

**TABLE 2-5**

**SELECTED ALTERNATIVE COST ESTIMATE SUMMARY  
RECORD OF DECISION  
SITE 35, BUILDING 1429, PUBLIC WORKS MAINTENANCE FACILITY  
NAVAL AIR STATION WHITING FIELD  
MILTON, FLORIDA**

<b>CAPITAL COSTS</b>	
<b>Description</b>	<b>Cost</b>
1. Project Planning	\$1,379
2. Mobilization/Demobilization	\$0
3. Decontamination	\$0
4. Site Preparation	\$0
5. Excavation/Backfill	\$0
6. Off-site Transportation and Disposal	\$0
7. Site Restoration	\$0
8. LUC Implementation	<u>\$18,242</u>
Subtotal	\$19,591
Contingency Allowance (10%)	\$1,959
Engineering/Project Management (5%)	<u>\$978</u>
<b>Total Capital Cost</b>	<b>\$22,529</b>
<b>OPERATION AND MAINTENANCE COSTS</b>	
<b>Description</b>	<b>Cost</b>
1. Total Operation and Maintenance Costs (includes costs for 5-year reviews)	<b>\$80,380</b>
<b>Total Net Present Worth Cost for Selected Alternative</b>	<b>\$102,909</b>

The selected remedy eliminates, reduces, or controls risks by implementing ECs and LUCs to (1) restrict future use of the site to industrial activities involving less than full-time human contact with surface and subsurface soil and (2) by requiring the existing concrete/asphalt cover to remain in place. No unacceptable short-term risks or cross-media impacts will be caused by implementation of the remedy. Comparison of the selected remedy to the nine USEPA evaluation criteria is summarized in Table 2-6.

The selected remedy achieves compliance with chemical-specific ARARs by implementing ECs and LUCs to prevent exposure to surface and subsurface soils exceeding CGs. Compliance with action-specific ARARs will be achieved by the proper selection, implementation, and maintenance of ECs and LUCs. Table 2-7 provides a summary of ARARs and guidance documents specific to the selected remedy.

The selected remedy is cost effective and provides a balance between cost and overall effectiveness in the protection of human health and the environment. Permanent solutions and treatment are used to the maximum practicable extent; however, the selected remedy does not provide for on-site treatment of contaminated material due to the nature of the contaminants and their location. Although the statutory preference for treatment is not met by the selected remedy, the remedy provides the best balance among the evaluated alternatives, with respect to the balancing and modifying evaluation criteria listed in Table 2-7.

Because the selected remedy would result in hazardous substances remaining on site, five-year reviews will be required after commencement of the RA (for a period of at least 30 years) to ensure the remedy continues to provide protection of human health and the environment.

## **2.12 DOCUMENTATION OF SIGNIFICANT CHANGES**

No significant changes have occurred at Site 35 since the end of the public comment period for the Proposed Plan.

**TABLE 2-6**  
**SUMMARY EVALUATION OF SELECTED REMEDY**  
**RECORD OF DECISION**  
**SITE 35, BUILDING 1429**  
**NAVAL AIR STATION WHITING FIELD**  
**MILTON, FLORIDA**

Evaluation Criteria	Assessment
Overall Protection of Human Health and the Environment	Human receptors will be protected if this alternative is implemented. Regulatory controls (i.e., ECs and LUCs) will prohibit potential future residents from exposure to the site because residential use of the site will be restricted under the proposed remedy. ECs and LUCs will also prohibit disturbance or removal of existing concrete/asphalt cover or soil at the site.
Compliance with ARARs	This alternative achieves compliance with chemical-specific ARARs and TBC guidance by implementing ECs and LUCs to prevent exposure to surface and subsurface soils exceeding CGs. It meets action-specific ARARs by proper selection and maintenance of the ECs and LUCs.  Meets all other NAS Whiting Field requirements.
Long-Term Effectiveness	The risks to future workers based on exposure to surface and subsurface soils at the site is addressed by ECs and LUCs. The long-term effectiveness and permanence of these controls will be controlled by the installation through the implementation of an approved RD.  Administrative actions proposed in this alternative (e.g., 5-year site reviews) would provide a means of evaluating the effectiveness of the alternative. These administrative actions are considered to be reliable controls, as long as the facility implements the approved RD.
Reduction of Toxicity, Mobility, and Volume through Treatment	This alternative does not treat the soil contaminants and thus does not reduce the toxicity, mobility, or volume through treatment.
Short-Term Effectiveness	The implementation of this alternative is estimated to take less than 1 year. No adverse impacts are expected as a result of implementing ECs and LUCs.
Implementability	Would be easily implemented. Equipment, specialists, and materials for this alternative are readily available.
Cost	The total net present worth cost of Alternative 2 is \$103,000.
Federal and State Acceptance	The USEPA has approved and the FDEP has concurred with the selected remedy.
Community Acceptance	The community was given the opportunity to review and comment on the selected remedy. No comments were received and no public meeting was requested (see Appendix A). Therefore, the selected RA proposed in the Proposed Plan was not altered.
Notes: ARAR = applicable or relevant and appropriate requirement FDEP = Florida Department of Environmental Protection ECs = engineering controls LUCs = land use controls RA = remedial action RD = remedial design TBC = to be considered USEPA = United States Environmental Protection Agency	

**TABLE 2-7**

**SUMMARY OF FEDERAL AND STATE ARARS AND GUIDANCE SPECIFIC TO SELECTED REMEDY  
RECORD OF DECISION  
SITE 35, BUILDING 1429, PUBLIC WORKS MAINTENANCE FACILITY  
NAVAL AIR STATION WHITING FIELD  
MILTON, FLORIDA**

**PAGE 1 OF 2**

<b>Authority</b>	<b>Requirement</b>	<b>Citation</b>	<b>Status/Type</b>	<b>Synopsis</b>	<b>Evaluation/Action To Be Taken</b>
Federal Regulatory Requirement	USEPA Region IX Preliminary Remedial Goals (PRGs)		Relevant and Appropriate / Chemical-Specific	These guidelines aid in the screening of constituents in soil. USEPA has requested use of these PRGs as ARARs at NAS Whiting Field.	Will be used to identify constituents of concern (COCs) and for the development of soil cleanup goals at Site 35.
Federal Regulatory Requirement	Cancer Slope Factors (CSFs)		TBC / Chemical-Specific	Guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Were considered for development of human health protection PRGs for soil at this site
Federal Regulatory Requirement	Reference Doses (RfDs)		TBC / Chemical-Specific	Guidance values used to evaluate the potential noncarcinogenic hazard caused by exposure to contaminants	Were considered for development of human health protection PRGs for soil at this site
State Regulatory Requirement	Contaminant Cleanup Target Levels Rule [Soil Cleanup Target Levels (SCTLs)]	F.A.C. Chapter 62-777	TBC / Chemical-Specific	This rule provides guidance for soil cleanup levels developed on a site-by-site basis.	Will be used to identify COCs and for the development of soil cleanup goals at Site 35.
Federal Regulatory Requirement	Occupational Safety and Health Administration (OSHA) General Industry Standards	29 CFR Part 1910	Applicable / Action Specific	Requires establishment of programs to assure worker health and safety at hazardous waste sites, including employee-training requirements	These regulations will apply to all soil remedial activities at Site 35.
Federal Regulatory Requirement	OSHA, Occupational Health and Safety Regulations	29 CFR Part 1910, Subpart Z	Applicable / Action Specific	Establishes permissible exposure limits for workplace exposure to a specific listing of chemicals	Will be applied to control worker exposure to OSHA hazardous chemicals during remedial activities.
Federal Regulatory Requirement	OSHA, Recordkeeping, Reporting, and Related Regulations	29 CFR Part 1904	Applicable / Action Specific	Provides recordkeeping and reporting requirements applicable to remedial activities.	These requirements will apply to all site contractors and subcontractors and will be followed during all site work.

**TABLE 2-7**

**SUMMARY OF FEDERAL AND STATE ARARS AND GUIDANCE SPECIFIC TO SELECTED REMEDY  
RECORD OF DECISION  
SITE 35, BUILDING 1429, PUBLIC WORKS MAINTENANCE FACILITY  
NAVAL AIR STATION WHITING FIELD  
MILTON, FLORIDA**

**PAGE 2 OF 2**

<b>Authority</b>	<b>Requirement</b>	<b>Citation</b>	<b>Status/Type</b>	<b>Synopsis</b>	<b>Evaluation/Action To Be Taken</b>
Federal Regulatory Requirement	OSHA, Health and Safety Standards	29 CFR Part 1926	Applicable / Action Specific	Specifies the type of safety training, equipment, and procedures to be used during the site investigation and remediation.	All phases of the remedial response project will be executed in compliance with these standards.
Federal Regulatory Requirement	CERCLA and the NCP Regulations	40 CFR, Section 300.430	Applicable / Action Specific	Discusses the types of institutional controls to be established at CERCLA sites.	These regulations may be used as guidance in establishing appropriate institutional controls (ECs and LUCs) at Site 35.
State Regulatory Requirement	Florida Rules on Hazardous Waste Warning Signs	F.A.C. Chapter 62-730	Applicable / Action Specific	Requires warning signs at NPL and FDEP-identified hazardous waste sites to inform the public of the presence of potentially harmful conditions.	This requirement will not be met.
Federal Regulatory Requirement	NA	NA	NA	NA	There are no Federal Location-Specific ARARs specific to this site.

Notes: NA = Not Applicable

## REFERENCES

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## **APPENDIX A**

### **COMMUNITY RELATIONS RESPONSIVENESS SUMMARY**



**Responsiveness Summary**  
**Site 35, Building 1429, Public Works Maintenance facility**  
**Naval Air Station Whiting Field**  
**Milton, Florida**

A public comment period on the Site 35 Proposed Plan was held from 15 August through 14 September 2006. No public comments were received, and because a public meeting was not requested one was not held.